Project Title: Evaluation of regional spring wheat, winter wheat, and durum nurseries.

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Objective : To evaluate new and introduced lines and cultivars of spring wheat, winter wheat, and durum, to determine adaptability of those lines and cultivars to conditions in eastern Montana.

Results:

Uniform Regional Hard Red Spring Wheat Nursery

The Uniform Regional Hard Red Spring Wheat Nursery was grown under dryland conditions. The site was fallow in 1990. Plots were planted on April 22 and harvested on August 14. Mean yield was 40.0 bu/ac. The highest yielding lines were South Dakota lines SD 8073 and SD 3055 (Table 1). More than half of the lines yielded significantly more than the check cultivar, Chris 525-1. Test weights averaged 59.7 lb/bu. Protein contents were high, with an average protein content of 16.5%. Five-year summary tables for yield, test weight and protein content are shown in Tables 2 through 4.

Northern Regional Winter Wheat Nursery

The Northern Regional Winter Wheat Nursery was grown under dryland conditions. The site was fallow in 1990. Planting date was September 10, 1990, and harvest date was August 19, 1991. Winterkill was severe. Mean yield was 28.3 bu/ac. The highest yielding lines were North Dakota line ND 8844, Roughrider, and ND 85137 (Table 5). Test weights averaged 60.3 and protein contents averaged 13.6%. Five-year summary tables for yield, test weight and protein content are shown in Tables 6 through 8.

Uniform Regional Durum Nursery

The Uniform Regional Durum Nursery was grown under dryland conditions. The site was fallow in 1990. Planting date was April 22, and harvest date was August 15. Mean yield was 39.3 bu/ac. The highest yielding durum lines were North Dakota lines D87240, D86741, and Sceptre (Table 9). All three yelded significantly more than the check cultivar, Monroe, at a probability of 0.01. Ten lines yielded significantly more than Monroe at a probability of 0.05. Test weights averaged 59.7 lb/bu and protein contents averaged 17.3%. Five-year summaries for yield, test weight, and protein content are shown in Tables 10 through 12.

Table 1. Agronomic data obtained from a dryland uniform regional hard red spring wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991.

Date Seeded: Apr. 22, 1991 Date Harvested: Aug. 14, 1991 Size of Plot: 40 Sq. ft.[1]

C.I. or Sel. No.	Variety	Average Heading Date[2]	Average Height Inches	Average Protein Content Percent	Average Test Weight Lbs/Bu	Average Yield Bu/Acre
SD 8073	SD8052/SD2971	169	29	15.6	60.4	48.6aa
SD 3055	ND604/SD2971	167	30	16.7	60.4	46.9aa
FA987350	MSFRSP	166	26	16.1	59.6	46.3aa
N87-0306	HS81-0074/MN7357	170	25	16.7	59.1	45.9aa
MN087150	MN82008/VANCE	169	27	15.6	59.3	45.6aa
MN088334	MN4436/VANCE	172	29	15.8	60.6	44.7aa
ND 662	ND603/ND517-2*7/AGE	171	32	16.8	58.7	44.3aa
SD 8072	SD8052/SD2971	168	30	16.1	60.3	44.1aa
ND 672	GRANDIN/ND620'S'	170	28	16.7	60.6	43.4aa
XW398A4	MN7375/SD2903	172	29	16.9	60.2	43.3aa
MN088170	MN84139/MN74103	172	30	15.8	56.1	43.2aa
N87-467	WHEATON/PROBRAND711	171	30	15.9	59.6	42.7aa
SD 8074	SD8052/SD2971	166	29	16.1	61.2	41.8aa
ND 671	STOA'S'/ND620	167	30	17.4	62.5	41.3aa
N88-3034	SINTON/STOA	172	30	17.6	58.3	41.2aa
N86-0542	NORDIC/NORSEMAN	171	28	16.1	58.0	40.9aa
ND 597	BUTTE86	167	32	16.3	60.5	40.5a
ND 657	ND622'S'/CUTLESS	170	31	16.6	59.4	40.4a
MN088320	MN84377/WHEATON	168	27	15.1	61.9	39.9a
SD 3056	ND604/SD2971	166	29	16.1	60.0	39.5a
ND 655	STOA'S'/ND617'S'	169	30	16.9	61.6	38.5
N88-3836	SINTON/STOA	171	28	16.8	61.1	38.2
ND 582	STOA	170	32	16.6	59.7	37.7
BW 148	BW83(ND499/RL4137)/N	169	32	17.1	61.1	37.4
SD 3080	BUTTE86/SD3004	167	29	16.9	62.5	36.8
MN088189	MN84139/MN84565	170	29	16.6	59.9	36.4
CI 13986	ERA	173	30	16.0	57.7	35.8
CI982309	MSFRSP	173	31	17.7	54.5	34.2
CI 13751	CHRIS, 525-1	172	35	17.1	59.3	33.0
AC-MINTO	BW120(COL/BW63/KAT/	172	33	17.3	57.9	31.5
ID 367	A761025-1-2/ID 134	170	27	15.9	58.1	31.0
CI 3651	MARQUIS	174	37	16.4	58.8	24.0

Table 1. Agronomic data obtained from a dryland Uniform Regional Hard Red Spring Wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991, (continued).

Mean grain yield for experiment = 40.0 bushels per acre
F-Value for variety comparisons = 6.60 (Significant at .05 and .01)
S.E.X. = 2.08 bushels per acre
L.S.D. at .05 = 5.87 bushels per acre
L.S.D. at .01 = 7.81 bushels per acre
C.V. (SE/Mean) = 5.20%
C.V. (S/Mean) = 9.00

Note. Chris, 525-1 is considered to be the check variety for this nursery with an average yield of 33.0 bushels per acre.

a Indicates significantly greater yield than check variety, Chris, at probability of 0.05
aa Indicates significantly greater yield than check variety, Chris, at probability of 0.01.

Previous crop: Summer fallow

Soil type: Williams Loam

Fertilizer: No fertilizer was applied to this nursery due to residual fertilizer left from previous applications.

Herbicide: 1.5 pint per acre Bronate applied May 31, 1991.
Insecticide: None.

Precipitation for average crop year = 13.49 inches. Precipitation for 1991 crop year = 15.18 inches.

Precipitation for April 1 - July 31 period during 1991 = 11.49 inches. Average precipitation for same period = 7.74 inches.

[1] four-row plots, rows 10 feet long and one foot apart. At harvest, two eight-foot samples were taken from the center two rows for yield, test weight, and protein determinations.

[2] heading dates are number of days from January 1. 170 = June 19

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Table 2. Relative yielding abilities of uniform regional spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average yield bu/acre	yield as % of Chris
HiLine	1	--	--	--	42.3	--	42.3	125.1
Gus	2	39.0	7.0	--	--	--	23.0	115.9
Stoa	5	39.2	5.7	19.9	40.9	37.7	28.7	114.4
Vance	2	38.1	7.0	--	--	--	22.5	113.6
Butte 86	5	36.3	5.5	19.7	38.0	40.5	28.0	111.6
Era	5	41.1	3.5	19.4	39.3	35.8	27.8	110.9
Grandin	2	37.2	6.7	--	--	--	22.0	110.6
Minnpro	2	35.6	5.3	--	--	--	20.5	103.0
Chris	5	34.2	5.5	18.9	33.8	33.0	25.1	100.0
PN 2385	2	30.7	4.9	--	--	--	17.8	89.7
Marquis	5	30.7	6.1	14.2	30.5	24.0	21.1	84.1

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety, Chris.

Table 3. Relative test weights of uniform regional spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average test weight lb/bu	test weight as % of Chris
Grandin	2	64.0	58.6	--	--	--	61.3	105.7
Gus	2	62.0	58.5	--	--	--	60.3	103.9
Butte 86	5	63.0	56.7	57.1	57.0	60.5	58.9	102.6
Marquis	5	61.5	56.7	55.4	59.4	58.8	58.4	101.7
Stoa	5	62.0	56.0	56.6	57.0	59.7	58.3	101.6
Vance	2	61.5	55.7	--	--	--	58.6	101.0
PN 2385	2	60.0	57.1	--	--	--	58.6	100.9
Era	5	62.0	55.7	56.0	56.0	57.7	57.5	100.2
Chris	5	62.0	54.0	55.5	56.0	59.3	57.4	100.0
HiLine	1	--	--	--	56.0	--	56.0	100.0
Minnpro	2	60.0	51.2	--	--	--	55.6	95.9

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety, Chris.

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Table 4. Relative protein contents of uniform regional spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average protein percent	protein as % of Chris
Minnpro	2	15.5	19.5	--	--	--	17.5	107.0
PN 2385	2	15.7	18.2	--	--	--	17.0	103.7
Grandin	2	15.4	17.7	--	--	--	16.6	101.2
Chris	5	14.5	18.2	18.2	17.3	17.1	17.1	100.0
HiLine	1	--	--	--	16.8	--	16.8	98.2
Vance	2	14.3	17.8	--	--	--	16.1	98.2
Marquis	5	14.0	17.5	18.7	16.6	16.4	16.6	97.5
Butte 86	5	14.9	17.3	17.9	16.7	16.3	16.6	97.4
Stoa	5	13.9	17.2	18.2	16.7	16.6	16.5	96.8
Era	5	13.2	18.0	18.3	16.3	16.0	16.4	95.9
Gus	2	14.2	17.0	--	--	--	15.6	95.4

NOTE: Average proteins in this summary should not be compared to each other since they are not grown in the same years. Compare proteins only to the check variety, Chris.

Table 5 Agronomic data obtained from a dryland Northern Regional Winter Wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991.

Date Seeded: September 10, 1990 Date Harvested: August 19, 1991 Size of Plot: 40 Sq. Ft.[1]

Variety	Percent Winter Survival	Average Height Inches	Average Protein Content Percent	Average Test Weight Lbs/Bu	Average Yield Bu/Acre
ND8844	7.5	32	13.9	59.6	48.1
Roughrider	10.5	32	14.1	60.2	43.0
ND85137	7.5	30	14.2	60.7	40.4
ND86105	7.5	32	15.3	59.8	38.7
ND8892	8.0	32	14.1	59.7	38.2
Rri/Sx1	7.8	31	13.8	59.8	35.9
SD88250	6.8	28	12.7	60.9	33.0
SD88192	6.0	25	12.9	61.9	31.8
SD88240	5.5	30	14.7	61.2	31.1
SD88201	4.5	29	12.4	62.7	29.2
XNH1419	5.5	28	12.8	60.3	28.7
XNH1486	3.8	29	13.1	60.2	28.5
Sx1/Lco	3.5	28	13.5	61.6	28.1x
NE83407	6.0	24	13.7	59.9	26.6xx
NE88536	3.5	29	13.2	58.4	26.1xx
NE88635	5.8	28	14.0	59.1	24.9xx
SD88120	3.3	27	13.6	60.6	24.3xx
Kharkof	5.0	36	13.3	61.5	28.9xx
SD87144	4.8	28	14.5	60.3	23.9xx
Sage/Bsk	4.3	29	13.3	61.4	23.3xx
SD88137	2.8	29	14.4	60.8	22.4xx
NE87613	5.3	25	13.5	60.6	22.4xx
XNH1469	3.0	27	13.8	58.1	21.5xx
XNH1401	2.5	27	13.3	60.0	21.0xx
Colt	4.3	23	14.1	60.8	20.5xx
NE87612	3.8	24	13.2	59.4	17.0xx
NE83498	2.8	24	12.4	59.5	12.0xx

Table 5 Agronomic data obtained from a dryland Northern Regional Winter Wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991, (continued).

Mean grain yield for experiment = 28.3 bushels per acre
F-Value for variety comparisons = 3.97 (Significant at 0.05 and 0.01)
S.E.X. = 4.16
L.S.D. at .05 = 11.71 bushels per acre
L.S.D. at .01 = 15.52 bushels per acre
C.V. (SE/Mean) = 14.69%
C.V. (S/Mean) = 29.37%

x Indicates significantly less yield than check variety Roughrider at probability 0.05
xx Indicates Significantly less yield than check variety Roughrider at probability 0.01

Previous crop: Summer fallow

Soil type: Williams Loam

Fertilizer: No fertilizer was applied to this nursery due to residual fertilizer left from previous applications.

Herbicide: 1.5 pint per acre Bronate applied May 29, 1991.

Insecticide: None

Precipitation for average crop year = 13.49 inches. Precipitation for 1991 crop year = 15.18 inches. Precipitation for April 1 - July 31 period during 1991 = 11.49 inches. Average precipitation for same period = 7.74 inches.

[1] 4 row plots, rows 10 feet long and 1.0 feet apart. At harvest, four 8 foot samples were taken from all rows for yield, test weight and protein determinations.

Table 6. Relative yielding abilities of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana, during the 1986-1991 period.

Variety	number of years	1986	1987	1988	1990	1991	average yield bu/acre	yield as % of Roughrider
Agassiz	1	63.9	--	--	--	--	63.9	121.7
Hybritech 1365	1	--	--	--	42.7	--	42.7	109.5
Warrior	1	56.9	--	--	--	--	56.9	108.4
Hybritech 1463	1	--	--	--	42.1	--	42.1	107.9
MT 7811	1	--	--	--	41.7	--	41.7	106.9
Hybritech 1450	1	--	--	--	41.0	--	41.0	105.1
Judith	3	53.4	50.0	9.3	--	--	37.6	104.8
Colt	4	53.0	45.1	10.7	43.6	--	38.1	104.0
Abilene	2	--	45.7	11.4	--	--	28.5	103.8
Roughrider	5	52.5	44.9	10.1	39.0	43.0	37.9	100.0
Norwin	2	44.3	47.3	--	--	--	45.8	94.0
Seward	1	47.4	--	--	--	--	47.4	90.2
Kharkof	5	46.1	40.6	9.9	40.0	23.9	32.1	84.7
Hybritech 1401	2	--	--	--	41.2	21.0	31.1	75.9
Hybritech 1419	1	--	--	--	--	28.7	28.7	66.7
Hybritech 1486	1	--	--	--	--	28.5	28.5	66.3
Hybritech 1469	1	--	--	--	--	21.5	21.5	50.0

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety, Roughrider.

Table 7. Relative test weights of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana, during the 1986-1991 period.

Variety	number of years	1986	1987	1988	1990	1991	average test weight lb/bu	test weight as % of Roughrider
Abilene	2	--	65.3	59.6	--	--	62.5	105.1
Agassiz	1	61.5	--	--	--	--	61.5	105.1
Seward	1	59.5	--	--	--	--	59.5	101.7
Colt	4	60.5	63.1	57.7	58.0	--	59.8	101.6
Norwin	2	58.5	64.5	--	--	--	61.5	101.0
Hybritech 1401	2	--	--	--	59.0	60.0	59.5	100.7
Kharkof	5	58.0	61.9	57.8	58.0	61.5	59.4	100.6
Hybritech 1419	1	--	--	--	--	60.3	60.3	100.2
Roughrider	5	58.5	63.3	55.5	58.0	60.2	59.1	100.0
Hybritech 1486	1	--	--	--	--	60.2	60.2	100.0
MT 7811	1	--	--	--	58.0	--	58.0	100.0
Judith	3	58.5	61.8	56.9	--	--	59.1	99.9
Hybritech 1450	1	--	--	--	57.0	--	57.0	98.3
Hybritech 1365	1	--	--	--	56.5	--	56.5	97.4
Hybritech 1469	1	--	--	--	--	58.1	58.1	96.5
Hybritech 1463	1	--	--	--	55.5	--	55.5	95.7
Warrior	1	55.5	--	--	--	--	55.5	94.9

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety, Roughrider.

Table 8. Relative protein contents of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana, during the 1986-1991 period.

Variety	number of years	1986	1987	1988	1990	1991	average protein percent	protein as % of Roughrider
MT 7811	1	--	--	--	16.6	--	16.6	119.4
Abilene	2	--	13.0	14.8	--	--	13.9	105.7
Agassiz	1	12.5	--	--	--	--	12.5	103.3
Hybritech 1365	1	--	--	--	15.7	--	15.7	101.9
Hybritech 1463	1	--	--	--	15.7	--	15.7	101.9
Kharkof	5	12.2	11.7	15.2	15.1	13.9	13.6	100.3
Roughrider	5	12.1	10.4	15.9	15.4	14.1	13.6	100.0
Hybritech 1419	1	--	--	--	--	14.1	14.1	100.0
Hybritech 1401	2	--	--	--	15.5	13.3	14.4	97.6
Colt	4	12.4	11.2	14.4	14.4	--	13.1	97.4
Hybritech 1450	1	--	--	--	14.9	--	14.9	96.8
Judith	3	11.9	9.9	15.3	--	--	12.4	96.6
Warrior	1	11.5	--	--	--	--	11.5	95.0
Hybritech 1469	1	--	--	--	--	13.2	13.2	93.6
Seward	1	11.3	--	--	--	--	11.3	93.4
Norwin	2	11.7	8.7	--	--	--	10.2	90.7
Hybritech 1486	1	--	--	--	--	12.4	12.4	87.9

NOTE: Average protein contents in this summary should not be compared to each other since they are not grown in the same years. Compare protein contents only to the check variety, Roughrider.

Table 9 Agronomic data obtained from a dryland uniform regional durum nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991.

Date Seeded: April 22, 1991 Date Harvested: Aug. 15, 1991 Size of Plot: 40 Sq. ft.[1]

Variety	Average Heading Date[2]	Average Height Inches	Average Protein Content Percent	Average Test Weight Lbs/Bu	Average Yield Bu. Acre
D87240	172	31	17.6	58.3	45.3aa
D86741	170	26	16.8	60.0	45.2aa
Sceptre	171	31	17.2	59.6	44.6aa
D8475	171	32	17.7	59.6	44.1a
D87141	171	32	17.2	60.3	43.7a
D87130	172	32	17.8	61.7	43.6a
D87105	172	31	17.5	62.3	42.7a
D87443	170	27	17.7	61.9	42.5a
Stoa	170	31	17.9	59.3	42.2a
D87121	170	31	16.2	60.9	42.2a
D87450	169	25	17.5	59.0	41.8
Renville	171	31	16.8	60.4	41.6
D8460	170	28	17.9	59.3	40.7
D87122	172	31	17.9	60.3	40.7
D87436	171	30	15.6	60.6	39.3
D87245	173	29	17.0	57.6	39.1
Medora	171	32	17.3	59.9	39.0
Ward	171	33	17.8	59.5	38.7
D87038	173	29	16.8	59.3	37.8
Lloyd	172	26	16.6	57.5	37.7
D86-1523	170	25	15.9	60.9	37.6
D86747	169	27	16.4	60.2	37.4
D87-1531	172	27	17.7	60.5	37.4
Rugby	170	32	17.3	59.6	36.9
Monroe	169	30	18.1	58.1	35.3
Mindum	173	37	16.2	58.9	35.0
D86398	172	29	17.1	58.7	34.6
D86117	172	28	18.7	59.2	34.6
D87373	170	26	18.5	59.8	33.5
Vic	170	32	18.2	59.6	32.7
NPB86-435	172	27	17.8	58.4	32.1

Table 9. Agronomic data obtained from a Uniform Regional Durum nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1991, (continued).

Mean grain yield for experiment = 39.3 bushels per acre
F-Value for variety comparisons = 2.53 (significant at .05 and .01)
S.E.X. = 2.41 bushels per acre
L.S.D. at .05 = 6.82 bushels per acre
L.S.D. at .01 = 9.06 bushels per acre
C.V. (SE/Mean) = 6.15%
C.V. (S/Mean) = 10.61%
Check variety is considered to be Monroe, with an average yield of 35.3

a Indicates significantly greater yield than check variety, Monroe, at probability = 0.05
aa Indicates significantly greater yield than check variety, Monroe, at probability = 0.01

Previous crop: Summer fallow

Soil type: Williams Loam

Fertilizer: No fertilizer was applied to this nursery due to residual fertilizer left from previous applications.

Herbicide: 1.5 pint per acre Bronate Applied May 29, 1991.

Insecticide: None

Precipitation for average crop year = 13.49 inches. Precipitation for 1991 crop year = 15.18 inches.

Precipitation for April 1 - July 31 period during 1991 = 11.49 inches. Average precipitation for same period = 7.74 inches.

[1] four-row plots, rows 10 feet long and one foot apart. At harvest, two eight-foot samples were taken from the center two rows for yield, test weight, and protein determinations.

[2] heading dates are number of days from January 1. 171 = June 20

Table 10. Relative yielding abilities of uniform regional durum varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average yield bu/acre	yield as % of Monroe
Renville	5	39.5	2.8	22.2	36.6	41.6	28.5	111.7
Sceptre	5	35.1	4.0	18.2	34.5	44.6	27.3	106.7
Westbred Regal	3	37.3	3.9	16.2	--	--	27.3	106.7
Stockholm	2	37.8	4.1	--	--	--	21.0	103.7
Lloyd	5	34.7	3.8	18.5	36.9	37.7	26.3	103.0
Monroe	5	35.6	4.8	18.2	33.9	35.3	25.6	100.0
Ward	5	34.3	1.4	18.5	34.8	38.7	25.5	99.9
Medora	5	34.4	0.9	14.1	36.0	39.0	24.9	97.3
Rugby	5	32.6	2.4	19.4	33.0	36.9	24.9	97.3
Vic	5	35.8	3.7	18.9	33.1	32.7	24.8	97.2
Mindum	5	32.9	0.1	15.3	31.1	35.0	22.9	89.5

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety, Monroe.

Table 11. Relative test weights of uniform regional durum varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average test weight lb/bu	test weight as % of Monroe
Westbred Regal	3	63.5	57.8	59.5	--	--	60.3	103.9
Mindum	4	64.0	***	58.7	62.4	58.9	61.0	103.0
Vic	5	63.5	56.4	59.5	60.0	59.6	59.8	101.9
Rugby	4	63.0	***	58.4	60.0	59.6	60.3	101.7
Ward	4	63.0	***	58.3	60.0	59.5	60.2	101.6
Medora	4	63.0	***	56.9	60.5	59.9	60.1	101.4
Stockholm	2	63.0	58.1	--	--	--	60.6	101.4
Renville	5	63.0	55.7	58.2	59.5	60.4	59.4	101.2
Monroe	5	63.0	56.4	56.9	59.0	58.1	58.7	100.0
Sceptre	5	61.0	56.4	57.4	59.0	59.6	58.7	100.0
Lloyd	5	61.0	56.0	56.9	60.0	57.5	58.3	99.3

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety, Monroe.

***indicates not enough sample to measure test weight

Table 12. Relative protein contents of uniform regional durum varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana, during the 1987-1991 period.

Variety	number of years	1987	1988	1989	1990	1991	average protein percent	protein as % of Monroe
Medora	5	17.7	20.0	20.6	19.0	17.9	19.0	107.9
Renville	5	14.9	19.9	19.1	17.7	17.9	17.9	101.2
Sceptre	5	14.9	19.8	19.6	18.3	16.2	17.8	100.7
Ward	5	15.3	18.8	19.0	18.1	17.2	17.7	100.2
Rugby	5	15.4	19.0	18.6	17.8	17.5	17.7	100.1
Monroe	5	15.4	18.4	19.7	17.2	17.5	17.6	100.0
Mindum	4	15.0	***	19.3	17.8	17.6	17.4	99.9
Vic	5	15.2	18.2	18.7	17.4	17.2	17.3	98.3
Westbred Regal	3	13.6	18.6	19.3	--	--	17.2	96.3
Lloyd	5	13.6	17.7	19.1	16.4	17.8	16.9	95.9
Stockholm	2	14.1	18.0	--	--	--	16.1	95.0

NOTE: Average proteins in this summary should not be compared to each other since they are not grown in the same years. Compare proteins only to the check variety, Monroe.

***indicates not enough sample to measure protein content